Persistence of shp file information and display of search params to user in Reverb

Background

Currently, when a user selects an ESRI shape file to define their spatial search area, the relevant spatial information is extracted from the file and converted to spatial feature(s) which are then added to the map and to the search query. The shape file itself is no longer needed and is not held onto by Reverb. Thus, the name of the file is not recorded and displayed back to the user. It is not included in any of the subsequent screens in the order/service workflows and is not included in the order receipt. While the actual points obtained from the file are displayed back to the user in the dataset and granule search pages, it would often be useful to have a record of where they came from. In addition, a user might want to retain a record of any and all search parameters used to obtain the items in an order for future reference. These issues are addressed in NCR 11011365. A proposed fix has been mostly implemented and is described below.

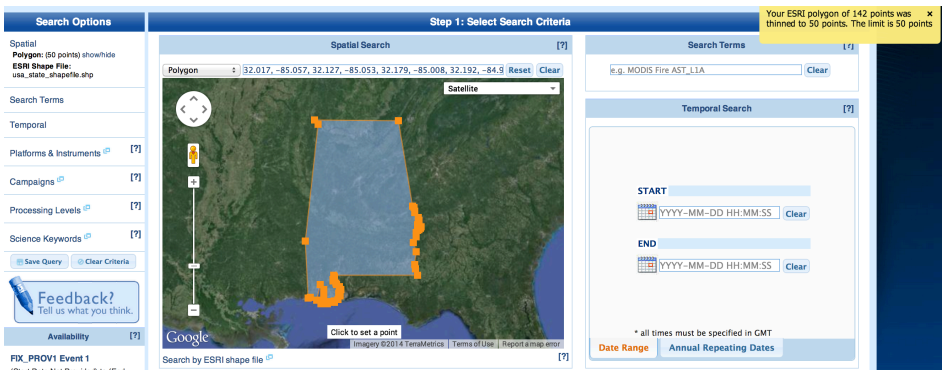
Due to the nature of these enhancements, we want to discuss with all providers before making any changes. The proposed solution is not final and we welcome any alternate solutions. Note that the proposal includes changes to the order confirmation email, and therefore any scripts which parse this email may need to be updated.

Proposed Changes

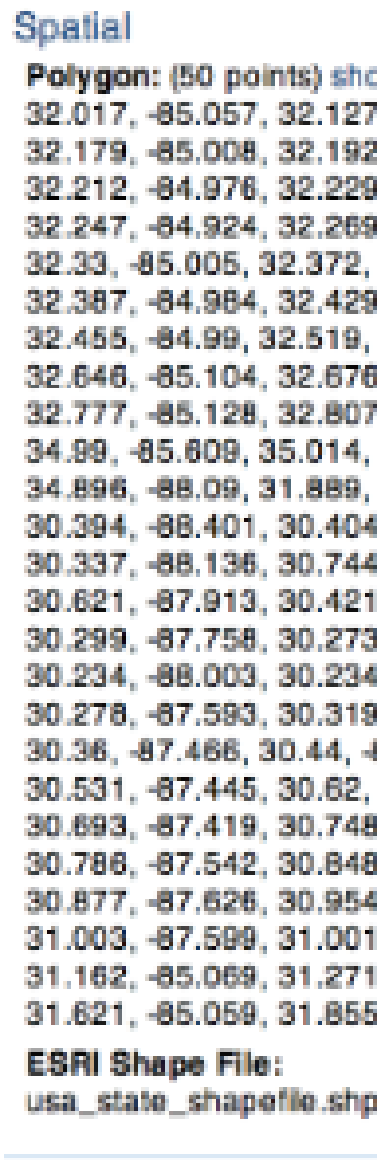
Dataset Search Page

When a shape file is added to a spatial search in Reverb, its name will be added to the 'Search Options' section on the left pane, as shown in the screen shot below. The shape file name is also added to the reverb search URL. The file name will be removed from the search parameters when the 'Reset' or 'Clear' buttons are pressed, when the spatial type or point list text box are modified, or when points are dragged on the map. For security reasons, Reverb will only retain the file name, and not the full path. The number of points extracted from the shape file is displayed, but the list of points is hidden. Clicking the 'show/hide' link will reveal the full list (and clicking again will hide it).

Note that Reverb will only use the first feature it finds in the shape file, and if that feature is a polygon, will thin the vertices down to a maximum of 50. Only point and polygon features are currently supported. The shape file used in the following screen shots contains polygons for all 50 states, but only the first one (Alabama) is extracted. Thinning of points in a polygon is done by determining for each point the distance from the point to a line drawn between its two neighbors. The point with the smallest distance is removed, then distances re recalculated and the process repeated until the number of points reaches 50.



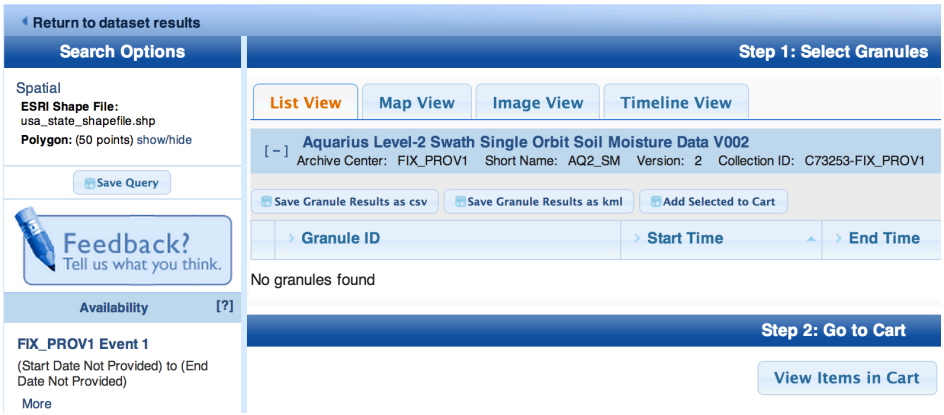
Dataset Search Page with a a spatial search area specified by a shape file. Note the shape file name and number of points (but not the points themselves) are displayed in the 'Search Options' area on the left hand side.



After clicking the 'show/hide' link in the 'Search Options' section, the list of points is displayed.

Granule Results Page

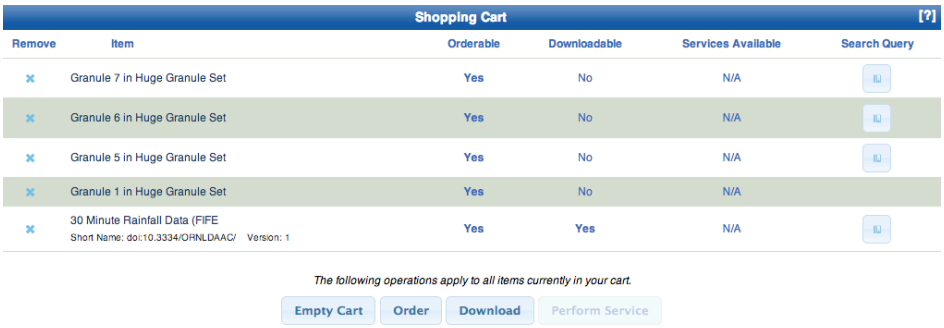
The name of any shape file specified in the dataset search page, (as well as the points specified in it) is carried over to the granule results page as seen in the screenshot below. As with the dataset search page, the list of points is hidden initially but can be revealed by clicking the 'show/hide' link.



Granule search result page with shape file name and number of points displayed in the 'Search Options' section.

Shopping Cart

A new column has been added to the shopping cart to enable the display of the query which led to the selection each cart item, as shown below. If there is no query url saved (e.g. if the item was added before the addition of this new column in the database), then no button is displayed. Note the icon image is a 'bookmark' as the saved url is essentially a bookmark of the search.



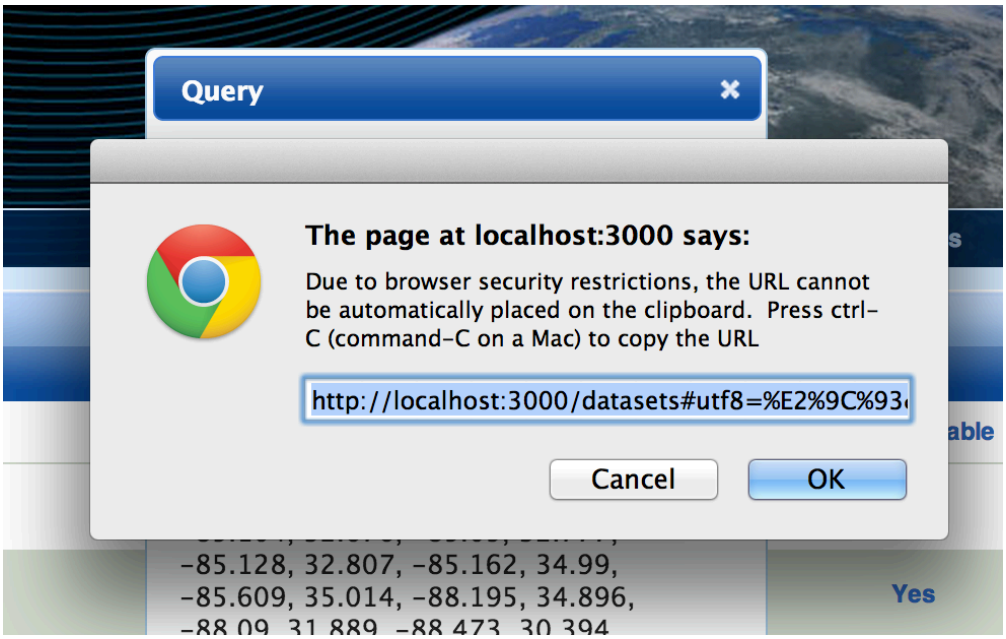
Shopping cart with the new 'Search Query' column and button.

Clicking on the new 'Search Query' button will pop up a dialog box as shown below. This pop up shows all the relevant parameters (including the shp file name) of the search which was resulted in the addition of the selected item. By default, the list of points extracted from a shape file are hidden, but can be revealed by clicking the 'show/hide' link.

Query URL popup with a shape file name and the list of points hidden.

Query URL popup with the point list displayed.

The 'Query URL' popup contains two buttons. The 'Repeat Query' button will open the query URL in a new window or tab. By repeating the query, the same reverb results screen will be displayed as was displayed in the initial search. This may be useful for bookmarking the search URL. The 'Copy Query' button assists in copying the URL to the clipboard. Due to security concerns, most browsers will not allow a webpage to access the system clipboard, so unfortunately this requires a manual step. Clicking the 'Copy Query' button will pop up a dialog which contains the URL in a text box. The URL is already selected, so all the user needs to do is press ctrl-c (or command-c on a Mac) to copy the URL to the clipboard.



'Copy Query' dialog box with the URL preselected and ready to be copied.

Order Confirmation Email

Finally, Reverb will present the associated queries after an order has been submitted. Ideally, this would be displayed in the Order Receipt page which is presented immediately after submittal. Unfortunately, the query information is stored in the shopping cart, which is usually emptied as soon as an order is submitted, and therefore reverb no longer has access to it. The Order Receipt page displays information returned from the ECHO order API which is outside of Reverb. Passing the query information to the Order API would be a bigger undertaking and is likely out of scope for the task at hand. Luckily, we can instead insert the query information in the order confirmation email as it is sent just before emptying the cart. The email will now include a manifest of ordered items and their associated query URL (grouped by shared query URL), as shown below. Since the email is in plain text, and not HTML, there are limitations on the formatting that can be added (e.g. the entire URL must be displayed, instead of providing an HTML link with shorter text, though most email readers will automatically turn the URL into a clickable link).

Note that since the email contents will be changing, any client which parses the email and depends on a certain syntax may need to be modified.

> *Dear User,*
>
> *Thank you for your recent order. This email is to notify you that the following order has been received:*
>
> *** Order Overview ***
> *User Name: User101*
> *Order ID: 091A3D79-99CD-CB48-9EF5-7F3EC397FBDF*
> *Order Received: 2014-05-02T19:32:44Z*
> *Tracking Link: http://localhost:3000/orders/091A3D79-99CD-CB48-9EF5-7F3EC397FBDF*
>
> *** Order Item Manifest ***
> *Search URL: http://localhost:3000/granules?utf8=%E2%9C%93&new_view=true&spatial_map=satellite&spatial_type=polygon&keywords=prov&temporal_start=1983-05-02+00%3A00%3A00&temporal_end=2014-05-09+23%3A59%3A59&datasets=C73284-FIX_PROV1*
> *Query Parameters:*
> **spatial_type: polygon*
> **keywords: prov*
> **temporal_start: 1983-05-02+00:00:00*
> **temporal_end: 2014-05-09+23:59:59*
> **datasets: C73284-FIX_PROV1*

Order Items:
*Granule 7 in Huge Granule Set
*Granule 6 in Huge Granule Set
*Granule 5 in Huge Granule Set

Search URL: Query not recorded
Order Items:
*Granule 1 in Huge Granule Set

Search URL: http://localhost:3000/#utf8=%E2%9C%93&spatial_map=satellite&spatial_type=polygon&spatial=32.017%2C%20-85.057%2C%2032.127%2C%20-85.053%2C%2032.179%2C%20-85.008%2C%2032.192%2C%20-84.96%2C%2032.212%2C%20-84.976%2C%2032.229%2C%20-84.916%2C%2032.247%2C%20-84.924%2C%2032.269%2C%20-84.895%2C%2032.33%2C%20-85.005%2C%2032.372%2C%20-84.972%2C%2032.387%2C%20-84.984%2C%2032.429%2C%20-84.965%2C%2032.455%2C%20-84.99%2C%2032.519%2C%20-84.996%2C%2032.646%2C%20-85.104%2C%2032.676%2C%20-85.09%2C%2032.777%2C%20-85.128%2C%2032.807%2C%20-85.162%2C%2034.99%2C%20-85.609%2C%2035.014%2C%20-88.195%2C%2034.896%2C%20-88.09%2C%2031.889%2C%20-88.473%2C%2030.394%2C%20-88.401%2C%2030.404%2C%20-88.32%2C%2030.337%2C%20-88.136%2C%2030.744%2C%20-88.02%2C%2030.621%2C%20-87.913%2C%2030.421%2C%20-87.903%2C%2030.299%2C%20-87.758%2C%2030.273%2C%20-87.78%2C%2030.234%2C%20-88.003%2C%2030.234%2C%20-87.795%2C%2030.278%2C%20-87.593%2C%2030.319%2C%20-87.588%2C%2030.36%2C%20-87.466%2C%2030.44%2C%20-87.405%2C%2030.531%2C%20-87.445%2C%2030.62%2C%20-87.393%2C%2030.693%2C%20-87.419%2C%2030.748%2C%20-87.527%2C%2030.786%2C%20-87.542%2C%2030.848%2C%20-87.616%2C%2030.877%2C%20-87.626%2C%2030.954%2C%20-87.59%2C%2031.003%2C%20-87.599%2C%2031.001%2C%20-85.002%2C%2031.162%2C%20-85.069%2C%2031.271%2C%20-85.103%2C%2031.621%2C%20-85.059%2C%2031.855%2C%20-85.136&shp_file=usa_state_shapefile.shp
Query Parameters:
*spatial_type: polygon
*spatial: 32.017, -85.057, 32.127, -85.053, 32.179, -85.008, 32.192, -84.96, 32.212, -84.976, 32.229, -84.916, 32.247, -84.924, 32.269, -84.895, 32.33, -85.005, 32.372, -84.972, 32.387, -84.984, 32.429, -84.965, 32.455, -84.99, 32.519, -84.996, 32.646, -85.104, 32.676, -85.09, 32.777, -85.128, 32.807, -85.162, 34.99, -85.609, 35.014, -88.195, 34.896, -88.09, 31.889, -88.473, 30.394, -88.401, 30.404, -88.32, 30.337, -88.136, 30.744, -88.02, 30.621, -87.913, 30.421, -87.903, 30.299, -87.758, 30.273, -87.78, 30.234, -88.003, 30.234, -87.795, 30.278, -87.593, 30.319, -87.588, 30.36, -87.466, 30.44, -87.405, 30.531, -87.445, 30.62, -87.393, 30.693, -87.419, 30.748, -87.527, 30.786, -87.542, 30.848, -87.616, 30.877, -87.626, 30.954, -87.59, 31.003, -87.599, 31.001, -85.002, 31.162, -85.069, 31.271, -85.103, 31.621, -85.059, 31.855, -85.136
*shp_file: C:\fakepath\usa_state_shapefile.shp
Order Items:
*30 Minute Rainfall Data (FIFE

Your order is being transmitted to the appropriate data provider(s) for processing. You will receive notifications from each data provider regarding your order's fulfillment. You may also receive notifications from the ECHO system according to your requested notification level.

For questions regarding order submission and/or tracking, please contact the ECHO Operations team at support@echo.nasa.gov. Please include your order's ID as a reference so that we may address your questions promptly.